

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Part 2 of the Commission's Rules to	)	ET Docket No. 00-258
Allocate Spectrum Below 3 GHz for Mobile and Fixed	)	
Services to Support the Introduction of New Advanced	)	
Wireless Services, Including Third Generation Wireless	)	
Systems	)	
	)	
Amendment of Section 2.106 of the Commission's	)	ET Docket No. 95-18
Rules to Allocate Spectrum at 2 GHz for Use by the	)	
Mobile Satellite Service	)	
	)	
The Establishment of Policies and Services Rules for the	)	IB Docket No. 99-81
Mobile Satellite Service in the 2 GHz Band	)	
	)	
Petition for Rule Making of the Wireless Information	)	RM-9498
Networks Forum Concerning the Unlicensed Personal	)	
Communications Service	)	
	)	
Petition for Rule Making of UTStarcom, Inc., Concerning	)	RM-10024
The Unlicensed Personal Communications Service	)	

**REPLY COMMENTS OF  
TMI COMMUNICATIONS AND COMPANY,  
LIMITED PARTNERSHIP**

This Reply is being filed on behalf of TMI Communications and Company, Limited Partnership (TMI)<sup>1</sup> to highlight two conclusions that flow from the numerous comments in these dockets filed since February 2001.

First, read as a whole, the record suggests that the amount of spectrum currently needed to accommodate the competitive provision of advanced wireless

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<sup>1</sup> TMI is a Canadian mobile satellite service (MSS) provider authorized to operate in the 2 GHz band. See TMI Communications and Company, Limited Partnership, Letter of Intent to

services is such that no spectrum need be taken from the 2 GHz frequency bands previously allocated to the Mobile Satellite Services (“MSS”). Simply put, the much-publicized conflict between the asserted spectrum needs of the terrestrial wireless industry (Cellular, PCS) and MSS is belied by the facts. Until 2006 or so, the evidence indicates that a competitive framework for next generation (3G) mobile services can be accommodated by allocating no more than approximately 120 MHz of spectrum, which can be achieved without disturbing the current 2 GHz MSS allocation.

The weight of the evidence also suggests that in the face of embryonic technologies, evolving service menus and uncertain demand, an incremental, market-driven approach to spectrum allocation is in the public interest. Hence, until both 2 GHz MSS and 3G wireless service providers (which, of course, includes some MSS operators) have a fair opportunity to establish their businesses, the Commission should not use its spectrum allocation power to favor one service over the other or to overturn its prior public interest determinations. That leads to TMI’s second main point.

The preponderance of comments, including those filed by the general public (e.g., Progress & Freedom Foundation; satellite users), argue for granting 2 GHz MSS providers at least the same flexibility to use their assigned spectrum as granted to other radio licensees. In response to market demands, 2 GHz MSS grantees should be permitted to consolidate their operations, share space platforms, assign licensees, lease spectrum amongst themselves, re-deploy spectrum forfeited by another MSS grantee, and operate integrated networks of ancillary terrestrial base stations. The adoption of liberal policies such as these is the best means of allowing the market to determine the mix of advanced wireless services offered by satellite and terrestrial

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provide Mobile-Satellite Services in the 2 GHz Bands, Order DA 01-1638, released July 17,

mobile services in the U.S. and, correspondingly, the amount of spectrum that ultimately should be allocated to each industry.

A. Based Upon the Record Before It, the FCC  
Can Reasonably Satisfy the Current Need for  
3G Spectrum Without Disturbing the MSS Allocation

Now that two rounds of comments have been docketed (responding to the December 2000 *NPRM* and August 2001 *Further NPRM*), it is time to review the record evidence submitted on the two fundamental questions that motivated this proceeding. They are: (1) what “amount of additional spectrum . . . should be made available for use by new advanced mobile and fixed service, including 3G systems”;<sup>2</sup> and (2) in which “frequency bands . . . this spectrum should be located.”<sup>3</sup>

In evaluating the evidence, it also is important to bear in mind the Commission’s advice as to the factual basis required for any conclusion. Notably, to support any given allocation, the FCC requested evidence, *inter alia*, on the “current capacity constraints on providing specific types of advanced services,”<sup>4</sup> the spectral efficiency and capacity limitation of different wireless systems, the size of desired spectrum blocks and the need for band pairing. Likewise, as regards the frequency bands to be allocated, the Commission asked for comment on their comparative merits – i.e., the “benefits and costs of each . . . allocation option.”<sup>5</sup> In so doing, the FCC also asked for an analysis that takes into account the costs of accommodating displaced

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2001.

<sup>2</sup> Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 0-258, *Notice of Proposed Rule Making and Order*, 16 FCC Rcd 596 (2001) (*NPRM*) at ¶25.

<sup>3</sup> *Ibid.*

<sup>4</sup> *Id.* at ¶ 27.

<sup>5</sup> See Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, FCC 01-224, 66 FR 47618-01, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking* (released Aug. 20, 2001) (“*Further NPRM*”).

licensees in any band; the impact of secondary market operations on the availability of desirable spectrum; and the advantages and disadvantages of harmonizing U.S. spectrum allocations with the band plans adopted by other countries.

The FCC's insistence on building a factual record to support each major prong of any future spectrum allocation order – “how much” and “which bands” – is not only required for sound policymaking; it is also a legal prerequisite. Under the Administrative Procedure Act and relevant case law, Commission rules must be the product of “reasoned decisionmaking,”<sup>6</sup> and the courts have held that a rulemaking decision must be justified based on record evidence resulting from a careful weighing of different options presented to the agency.<sup>7</sup>

Against this background, it is now reasonably clear that the amount of spectrum actually needed in the near- to mid-term (e.g., until at least 2006) for advanced wireless services is considerably less than the 160-200 MHz first forecast in 1999 and 2000 at the height of the global 3G wireless frenzy. Current evidence, including that submitted by the largest mobile wireless equipment manufacturers (Nokia, Ericsson, Motorola), suggests that as little as 120 MHz of additional spectrum would be sufficient (i.e., two 60 MHz blocks). In Nokia's view, for example, at least three options which pair spectrum above 1710 MHz with spectrum above 2110 MHz are feasible, including “Option 2a” – comprising two 60 MHz blocks (pairing 1710-1770 MHz with 2110-2170 MHz). Such an allocation, says Nokia, “provide[s] sufficient

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<sup>6</sup> See *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983).

<sup>7</sup> See, e.g., *Illinois Public Telecommunications Ass'n v. FCC*, 117 F.3d 555, 564 (D.C. Cir. 1997) (remanding an FCC rulemaking order that failed to justify the agency's pay phone compensation rate in light of record evidence); *Cincinnati Bell Tel. Co. v. FCC*, 69 F.3d 752, 759-64 (6th Cir. 1995) (remanding an FCC rulemaking order establishing ownership attribution and cellular eligibility rules for the Personal Communications Service because there was no record evidence supporting those rules).

spectrum to support close to a competitive number of 3G operators.”<sup>8</sup> In a similar vein, Ericsson supports a three-phase allocation of spectrum under which only two 40 MHz blocks would be available initially.<sup>9</sup>

The record also suggests, however, that the asserted “need” for even approximately 120 MHz of spectrum is less than credible. None of the major proponents of such an allocation has actually docketed an up-to-date spectrum study based on a year-by-year forecast that includes, for example, the predicted number of advanced wireless devices by metropolitan area; the estimated spectrum consumption (traffic) by device based on a reasonable range of assumed service prices; the spectral efficiency of available technologies; and, in view of such variables, how much of the projected demand might be accommodated by each 10 MHz increment of new spectrum.

On the contrary, even now, most parties advocating the allocation of 120 MHz or more for 3G simply recycle the ITU’s finding from the late 1990s that approximately 160 MHz of additional wireless spectrum would be required in the U.S. for IMT-2000 services “in those areas where the traffic is the highest.”<sup>10</sup> No effort is made to update

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<sup>8</sup> Comments of Nokia, pp. 3-4. Nokia does not express a preference between Options 1b (pairing 1710-1745 MHz with 1805-1840 MHz, and 1755-1795 MHz with 2110-2150 MHz), 2a and 2b (which adds 20 MHz to option 2a). All these options are said to “provide sufficient spectrum to support a close to a competitive number of 3G operators.” (These options were originally proposed by the FCC in December 2000. See *NPRM, supra*, ¶¶ 67-68). An allocation of 120 MHz for wireless services would provide spectrum for three or four competitive operators (e.g., each 60 MHz pair could be subdivided into equal 20 MHz blocks or in 15 MHz blocks to accommodate four networks; other variations are also possible, of course, such as a 12.5/12.5/15/15 MHz segmentations).

<sup>9</sup> See Comments of Ericsson, dated October 19, 2001, at pp. 1-3, 14-15. Even Motorola, which has long claimed an “unmistakable” (though undocumented) need for 160-200 MHz of additional 3G spectrum now supports an allocation of 120 MHz (1710-1770 MHz; 2110-2170 MHz) as the “most viable option for making spectrum available in the required time frame.” Comments of Motorola, Inc., October 22, 2001, p. 4. However, Motorola still maintains (without any factual showing) that 120 MHz “is not sufficient to accommodate the long-term growth of the mobile industry over the next decade.” *Ibid.*

<sup>10</sup> See, e.g., Comments of AT&T Wireless Services, Inc., February 22, 2001, pp. 3-4; Comments of AT&T Wireless Services, Inc., October 22, 2001, pp. 2-3.

this finding or to docket the type of area-by-area traffic studies that might support their claims. This is far from the legal and technical rigor that one would expect from parties seeking to effect a multi-billion dollar reallocation of radio spectrum.

On the other hand, as detailed in the comments of Boeing and others, recent evidence suggests that a majority of consumers may not wish to pay for the type of spectrum-intensive 3G services on which initial ITU and other studies were based – a skepticism that the FCC’s Chairman has also voiced.<sup>11</sup> Indeed, even the Department of Defense has testified that “there is reasonable doubt about whether [a 160 MHz need] assessment . . . is valid for the United States and uncertainty about the timeline for meeting any additional needs.”<sup>12</sup>

In short, based on the current record, there is no credible reason to include the MSS band in the spectrum pool that might be used for a new advanced wireless service because the current demand for such spectrum can be met from other bands. And, given the likely timeframe for rollout of most 3G service (2004-2006), there should be no rush to judgment regarding the total amount of spectrum that advanced wireless services may ultimately need.

B. The Public Interest Requires the FCC to Permit 2 GHz  
MSS Licensees to Use Allocated Spectrum Flexibly  
And to Liberally Assign or Lease Their Spectrum Rights

In recent years the FCC has taken steps to allow market forces to have a greater role in the allocation and assignment of scarce radio spectrum without jeopardizing its

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<sup>11</sup> See, e.g., Comments of The Boeing Company, October 22, 2001, pp. 10-11.

<sup>12</sup> Testimony of Dr. Linton Wells II, Acting Assistant Secretary of Defense before the Communications Subcommittee of the Senate Committee on Commerce; Science and Transportation Committee (July 31, 2001), cited at pp. 8-9 of the Comments of the Satellite Industry Association, October 22, 2001.

statutory public interest obligations.<sup>13</sup> As indicated above, the current docket provides the FCC with a unique opportunity to maintain that balance.

The Commission has previously found that the public interest will be best served by allocating 70 MHz of spectrum to a new 2 GHz MSS and, thereafter, has granted eight parties, including TMI, the authority to operate various kinds of satellite systems in that spectrum. Based upon the record assembled here, in 2002, the FCC also may allocate as much as 120 MHz of spectrum for new advanced wireless services and, subsequently, will issue multiple licenses for the use of that spectrum. Given the overlapping demand for terrestrial and satellite-based wireless services, the Commission should now permit market forces to work within the context of these public interest-based allocation decisions.

Among other things, this means that 2 GHz MSS authorizations should be readily assignable and licensees should be permitted to lease spectrum between them, as envisaged by the FCC's December 2000 policy statement on secondary markets.<sup>14</sup>

As the Progress & Freedom Foundation advises, the Commission's "equal shares" approach to assigning 2 GHz MSS spectrum may not provide adequate bandwidth to operate some services.<sup>15</sup> "Therefore," the Foundation continues, "the Commission should be flexible in permitting consolidations and should consider waiving MSS milestone requirements or other limiting regulations where MSS operators can demonstrate the combined spectrum is needed to permit efficient, economic operation of their systems."<sup>16</sup>

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<sup>13</sup> See, e.g., Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, FCC 99-354, Policy Statement, 14 FCC Rcd 19668 (1998); *NPRM*, *supra*, at ¶13.

<sup>14</sup> See Policy Statement, FCC 00-401, released December 1, 2000.

<sup>15</sup> Comments of The Progress & Freedom Foundation, October 22, 2001, p. 17.

<sup>16</sup> *Ibid.*

Likewise, as New ICO, Constellation and Boeing state, MSS operators should be permitted to transfer spectrum freely; to operate consolidated space platforms; and to acquire any spectrum forfeited by other parties if a license is surrendered or revoked.<sup>17</sup> The latter option is particularly important because, contrary to the claims of some parties, the market failure of one MSS licensee may say nothing about the viability of the MSS sector as a whole. Indeed, such a failure may simply signal that the market favors the business plan of another entrant whose demand for spectrum may have increased accordingly. Beyond that, as Globalstar emphasizes, the exit of any 2 GHz MSS licensee from the market will not affect the right of remaining operators to operate across the entire approximately 65 MHz of available spectrum on a secondary basis.<sup>18</sup>

In these circumstances, there can be no fair market test of the MSS allocation as a whole if other competing industries are able to strip away slices of this spectrum piecemeal. By 2006, when 3G operators may or may not require more spectrum than can be justified today (e.g., more than 120 MHz), the current group of MSS licensees will have just begun offering their services to the public<sup>19</sup> and, as with other novel radio services, may require some years to develop a viable market. Only then would there be any rational basis for revisiting the public interest finding on which the initial spectrum allocation decision was based. Any prior spectrum reduction – or restrictions in the way in which MSS spectrum is used – would only vitiate the

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<sup>17</sup> Comments of New ICO Global Communications, October 22, 2001, pp. 36-42; Comments of Constellation Holdings, Inc., October 22, 2001, pp. 10-15; Comments of The Boeing Company, *supra*, pp. 6-7.

<sup>18</sup> Comments of Globalstar, L.P., October 22, 2001, pp. 13-15.

<sup>19</sup> TMI's 2 GHz authorization provides for a July 17, 2006, milestone for launch of the first satellite; the system need not be operational until July 17, 2007. See *TMI Order, supra*, at ¶9. Other 2 GHz MSS authorizations have similar milestones.



market-based test that the Commission (and also the proponents of terrestrial 3G spectrum) claims to want.

C. Conclusion

The evidence before the FCC does not provide a record basis for reallocating 2 GHz MSS spectrum to advanced mobile services. In contrast, there is ample record support for granting 2 GHz MSS licenses substantial flexibility in using their allocated spectrum so that operators in this new service can respond to changing market demands.

Respectfully submitted,

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I, Learetta L. Parrett, hereby certify that I have on this 8th day of November, 2001, caused copies of Reply Comments of TMI Communications and Company, Limited Partnership, to be delivered by First Class mail, postage prepaid, to the following persons:

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